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DEPARTMENT OF THE NAVY                IGS-13100 (April 2004)
ATLANTIC DIVISION/EFA MEDITERRANEAN
NAVAL FACILITIES                      -----
ENGINEERING COMMAND                   Based On
GUIDE SPECIFICATION                   IGS-13100 (MAY 2002)
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## SECTION IGS-13100

LIGHTNING PROTECTION SYSTEM  
04/04

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NOTE: This Guide Specification is issued by the
Atlantic Division, Naval Facilities Engineering
Command for use in Italy.

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NOTE: This guide specification covers requirements for lightning protection systems. Requirements for materials and procedures for special or unusual design should be added as necessary to fit specific projects.

Comments and suggestions on this specification are welcome and should be directed to the technical proponent of the specification. A listing of the technical proponents and their telephone numbers is located on the Spec Support page on the LantDiv website.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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NOTE: Show the following information on the project drawings:

1. Location and details of air terminals.
2. Location and size of down and ring conductors.
3. Location of ground rods (or grounding plates) and ground inspection pits.
4. Location and size of the ring conductor.  
Provide a ring conductor for all buildings that have a lightning protection system.
5. Details of pertinent LPS components.

6. Location and information on insulated standoffs.

7. Location and details for disconnect devices.

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NOTE: Maximize the use of European technical/construction standards. Do not reference host nation standards that duplicate an available European standard. However, the designer is responsible for determining if there are any specific host nation standards that should be referenced. Consult with the project's Activity to determine their requirements and standards.

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## PART 1 GENERAL

### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### ITALIAN ELECTROTECHNICAL COMMITTEE (CEI)

CEI 11-1	(1999; V1 2000; EC 2001) Power Installations Exceeding 1 kV a.c.
CEI 64-8	(2003) Electrical Installations of Buildings
CEI 64-12	(1998; V1 2003) Residential and Similar Premises - Installation Criteria of Earthing System
CEI 81-1	(1998) Lightning Protection of Structures
CEI 81-3	(1999) Medium Values of the Numbers of Lightnings to Earth of Italian Cities, Issued Alphabetically
CEI 81-4	(1996; V1 1998) Lightning Protection of Structures. Assessment of the Risk of Damage Due to Lightning
CEI 81-8	(2002) Electrical Installations of Buildings - Application Guide for the Selection and Installation of the Surge Protective Devices

#### ITALIAN LAWS AND NORMS

LAW 46

(5 March, 1990) Safety Norms for  
Technological Systems

## 1.2 RELATED REQUIREMENTS

Section 16050, "Basic Electrical Materials and Methods," applies to this section with additions and modifications specified herein. Materials not considered to be lightning protection system material or components are specified in Section 16303, "Underground Electrical Work".

### 1.2.1 Verification of Dimensions

The Contractor shall become familiar with all details of work, verify all dimensions in the field, and shall advise the Contracting Officer of any discrepancy before performing work. No departures shall be made without prior approval of the Contracting Officer.

### 1.2.2 System Requirements

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**NOTE: Include the Italian CEI norms for projects located in Italy. For projects located in other European nations, add applicable LPS norms of the host nation.**  
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Materials shall consist of standard products of a manufacturer regularly engaged in production of lightning protection systems and shall be the manufacturer's latest approved design. Lightning protection system shall conform to CEI 64-8, CEI 64-12, CEI 81-1, CEI 81-3 and CEI 81-4.

## 1.3 DEFINITIONS

### 1.3.1 Lightning Protection System (LPS)

The lightning protection system shall include ground rods, air terminals, ground conductors, ring conductors, connectors and shall comply with CEI 64-8, and CEI 64-12.

### 1.3.2 Lightning Conductors

Conductor forming a loop or ring around the building or structure and interconnecting the down conductors for an equal distribution of lightning current among them.

### 1.3.3 Down Conductor

That part of an external LPS which is intended to conduct lightning current from the air termination system to the earth termination system.

## 1.4 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. Submit the following in accordance with Section 01330, "Submittal Procedures."

#### SD-02 Shop Drawings

Lightning protection system; G

#### SD-03 Product Data

Main conductors; G

Down conductors; G

Bonding conductors; G

Air terminals; G

Connection and termination components; G

[Ground rods; G]

[Grounding plates; G]

[Exothermic weld kit; G]

[Disconnect device; G]

#### SD-06 Test Reports

Lightning protection system inspection and test report; G

[Grounding system test; G]

#### SD-07 Certificates

Lightning protection system compliance certificate; G

## 1.5 QUALITY ASSURANCE

In each standard referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears. Interpret references in these standards to "authority having jurisdiction," or words of similar meaning, to mean Contracting Officer.

### 1.5.1 Lightning Protection System Drawings

Submit installation shop drawings for the overall lightning protection system. Drawings shall include roof plan, physical layout of the roof mounted equipment, all equipment connections, down leader locations, ring conductor plan, all conductor sizes and types, mounting details, and relationship to other parts of the work. Submit detail drawings for connection and termination components[ (including air terminals)] to include manufacturer's descriptive and technical literature, catalog cuts, and installation instructions.

### 1.5.2 Lightning Protection System Compliance Certificate

Submit proof of compliance. All the protected facilities shall be approvable by the Italian Authority having jurisdiction as applicable. Contractor shall provide a written certificate of compliance to the Contracting Officer as required by Italian Norm LAW 46. Submit written certificate from an approved, recognized testing organization equipped to perform such services, stating that items have been inspected and tested and that the system conforms to requirements defined in this specification and on the drawings.

## 1.6 SITE CONDITIONS

The Contractor shall become familiar with details of the work, verify dimensions in the field, and advise the Contracting Officer of discrepancies before performing work. Deviations from contract drawings shall not be made without prior approval of Contracting Officer.

## PART 2 PRODUCTS

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**NOTE: Include the Italian CEI norms for projects located in Italy. For projects located in other European nations, add applicable LPS norms of the host nation. Apply this instruction throughout this specification section.**

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### 2.1 GENERAL REQUIREMENTS

CEI 64-8, CEI 64-12, CEI 81-1, CEI 81-3, CEI 81-4 and CEI 81-8. Provide an external LPS system. The system shall be the "not insulated" type. All materials and components shall be copper or copper based except where alternative materials are required to prevent deterioration due to

dissimilar materials. Fulfill all specific requirements of CEI Italian Norms.

#### 2.1.1 CE Marking and Display

Equipment, materials, components, assemblies and so forth which are subject to European Union (EU) economic directives shall have an approved Declaration of Conformity as demonstrated by an authorized display of the CE Mark (Conformite Europeenne Mark). The CE Mark logo shall be placed on the product, the product literature, and/or packaging as required by the respective EU directive, or directives.

#### 2.2 SOURCE MANUFACTURERS

The following manufacturers provide lightning protection materials that generally comply with these specifications.

Schneider Electric S.p.A.  
 Direzione Generale  
 Viale Colleoni, 7-Palazzo Sirio  
 20031 Agrate Brianza (Mi) Italia  
 Tel: (39) 39 655 8111  
 Fax: (39) 39 605 6237  
 Website: [www.schneiderelectric.it](http://www.schneiderelectric.it)

CARPANETO  
 Via Ferrero, 10  
 10090 Cascine Vica - Rivoli (TO)  
 Tel: 011/9590111  
 Fax: 011/9590200  
 Web Site: [www.carpaneto.it](http://www.carpaneto.it)

#### 2.3 MATERIALS

CEI 81-1. Do not use a combination of materials that forms an electrolytic couple of such nature that corrosion is accelerated, especially in the presence of moisture. Where unusual conditions exist which would cause corrosion of conductors, either provide conductors with protective coatings or oversize the conductors. Where mechanical hazard is involved, either increase the conductor size to compensate for the hazard or protect the conductors by covering them with molding or tubing made of wood or nonmagnetic material. When metallic conduit is provided, electrically bond the conductor to the conduit at the upper and lower ends of the conduit. Provide bond conductor connections by either clamp type connectors or welds (including exothermic type). All ferrous materials and components shall be hot dip galvanized.

#### 2.4 COMPONENTS

##### 2.4.1 Main Conductors, Down Conductors, and Bonding Conductors

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**NOTE: Aluminum conductors are specifically required  
 in order to prevent rapid deterioration of**

dissimilar metals. For LPS designs for buildings, allow for aluminum fabricated equipment (exhaust fans, roof ventilators, and so forth) and construction features (flashing, caps on parapet walls, special roof structures such as mansard roofs, and so forth) which must be connected to the LPS. Size conductors in accordance with CEI 81-1.

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Provide lightning conductors as indicated on the drawings. All main conductors, including down conductor, shall be [ 95 percent annealed copper][ aluminum]. Bonding conductors shall also be copper except where aluminum conductors are required to prevent the rapid deterioration of dissimilar metals. The length of aluminum conductors shall be kept to a minimum. Copper-to-aluminum transition connectors and components shall be approved for both copper and aluminum conductors.

#### 2.4.2 Copper Conductors

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**NOTE:** There are two types of roof mounted main conductors that can be specified: (1) standard circular, bare copper conductors that interconnect air terminals; and (2) flat copper bar system interconnecting to form a mesh system (called the air termination system) and which does not involve air terminals. Consult with the Base/Station to obtain their preferences and policies.

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Sizes of all lightning protection conductors shall be in accordance with CEI 81-1. Down conductors (cable) shall have a minimum cross sectional area of [95][\_\_\_\_\_] mm<sup>2</sup>. Ring conductor (cable) shall have a minimum cross sectional area of [95][\_\_\_\_\_] mm<sup>2</sup>. [ Main lightning conductors (cable) that are roof mounted shall have a minimum cross sectional area of [95][\_\_\_\_\_] mm<sup>2</sup>.][ Main lightning conductors that are roof mounted shall be flat copper bar that is [4][\_\_\_\_\_] mm thick by [25][\_\_\_\_\_] mm wide. Bar shall be supported every [2][\_\_\_\_\_] meters with an insulator rated 1,000 volts. Insulator shall be either polymer type or porcelain type.] Copper bonding conductors (cable) shall have a minimum cross sectional area of [16][\_\_\_\_\_] mm<sup>2</sup>. Solid strip copper bonding conductor shall be [1.5][\_\_\_\_\_] mm thick by [15][\_\_\_\_\_] mm wide. Strap type pipe clamps shall be at least [50][\_\_\_\_\_] mm wide and [1.5][\_\_\_\_\_] mm thick. When perforated straps are provided, then the strap width shall be at least twice the diameter of the perforations.

#### 2.4.3 Aluminum Conductors

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**NOTE:** Do not install aluminum conductors in contact with the earth. Do not use aluminum conductors in any manner that will contribute to the rapid deterioration of dissimilar metal. Observe

appropriate precautions at connections with dissimilar metals. Provide aluminum conductors that are equivalent to the ampacity of the associated copper conductors. Provide aluminum straps in accordance with the same requirements for copper straps.

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Do not install aluminum conductors in contact with the earth. Do not use aluminum conductors in any manner that will contribute to the rapid deterioration of dissimilar metal. Observe appropriate precautions at connections with dissimilar metals. Provide aluminum conductors that are equivalent to the ampacity of the associated copper conductors. Provide aluminum straps in accordance with the same requirements for copper straps.

#### 2.4.4 Ground Ring Conductors

Provide stranded bare copper ring conductors sized in accordance with CEI 11-1 and CEI 64-8.

#### 2.4.5 Air Terminals

Provide copper air terminals in accordance with CEI 81-1. Air terminals shall have a minimum diameter of [15][\_\_\_\_\_] mm in accordance with CEI 81-1.

Length of air terminals shall be as indicated on the drawings.[ Provide additional bracing for air terminals longer than 600 mm in length.]

Provide terminals in accordance with CEI 81-1 and CEI 81-4. Air terminals shall be points constructed of nickel plated copper with threaded cast bronze base.

#### 2.4.6 Connection and Termination Components

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**NOTE:** Most lightning protection systems serve conventional buildings. However, lightning protection systems are also provided for specialized structures such as water towers, control towers, antenna structures, steeples, specialized towers, and so forth. Edit the specification accordingly when the project includes (or the project is) a specialized structure.

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Provide connections, terminations, fittings and components in accordance with CEI 81-1. Provide style and size of connectors, fittings and components as required for the actual installation and in accordance with the manufacturer's instructions and recommendations. Provide conductor connections with clamps using copper based bolts, nuts and lock washers. Provide connections to the ground ring that are easily accessible by means of inspection pits. For bolted connections, provide copper based, including hardware bolts, nuts, washers, spacers, and lock washers. Provide lock washers with all bolted connections. Coordinate with the actual material of the[ roof mounted equipment (fans, ventilators, vent pipes, and so forth) and roof construction features (parapet wall caps,



mansard roofs, and so forth)][ structure] which are connected to the lightning protection system. Coordinate the selection of connectors and components with the[ roof construction and other features of the building's construction] [ construction features of the structure].

#### 2.4.7 Ground Rods

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NOTE: The designer will determine the type and number of ground rods to be used based on local conditions and earth resistivity data. Consult with the cognizant EFD/EFA and the local Public Works Department. Copper clad steel rods will be specified for normal conditions. Galvanized coated steel or stainless steel rods will be used where low soil resistivities are encountered and galvanic corrosion may occur between adjacent underground metallic masses and the copper-clad rods. Stainless steel rods have a longer life than zinc coated steel, but use of these must be justified based on the higher cost. In high resistivity soils, 3000 mm sectional rods may be used to obtain the required resistance to ground; however, where rock is encountered, additional rods, a ground loop, or ground grid may be necessary. Coordinate and standardize rod selection for individual facilities with other specification sections.

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Provide ground rods made of[ copper-clad steel][ stainless steel][ solid copper][ galvanized ferrous] conforming to CEI 64-12 and CEI 81-1. Provide ground rods with diameter adequate to permit driving the full length of the rod, but not less than 19 mm in diameter, and 3m long, minimum.[ Do not mix ground rods of different composition. All ground rods shall be of the same material.]

#### 2.4.8 Connections and Terminations

Provide connectors for splicing conductors that conform to CEI 81-1. Conductor connections can be made by clamps or welds (including exothermic). Provide style and size connectors required for the installation.

#### 2.4.9 Clamp-Type Connectors

Provide brass plated with screws for aboveground strips. For splicing copper, conductors shall be brass compression type.

#### 2.4.10 Roof Conductor Supports

Supports shall be of the dead weight or clamp-type as required. Under no circumstances shall the roofing system be damaged by the installation of supports.

#### 2.4.11 Inspection Pits

Provide prefabricated concrete inspection boxes of the size and type shown for the installation of system ground rods and conductors. Provide removable concrete cover for each pit.

#### 2.4.12 Lightning Protection Components

Provide clamp-type connectors, roof conductors, supports and inspection pits that conform to CEI 81-1 and CEI 64-12 as applicable. Provide exothermic weld type connections or similar approved ground connections underground or inside pits.

#### 2.4.13 Test Clamps

CEI 81-1. Provide test clamps as shown on drawings. Protect test clamp on wall or in ground pit provided with heavy duty box with cover.

#### [2.4.14 Grounding Plates

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**NOTE:** The use of grounding plates is discouraged in Military Handbook MIL-HDBK-1004/6, paragraph 3.3.4; however, the use of grounding plates is an acceptable alternative to ground rods in areas where excessive rock and surface ledge is encountered. Provide appropriately detailed information on the drawings for a proper description of the grounding plates, locations, and connections.

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Provide grounding plates as indicated on the drawings. Plates shall be made of[ copper-clad steel][ iron] [ stainless steel][ solid copper].

### ]PART 3 EXECUTION

#### 3.1 INTEGRAL SYSTEM

CEI 81-1. The LPS shall consist of[ air terminals,][ mesh style system utilizing copper bars mounted on insulators,] main conductors, down conductors, bonding conductors, all connections, grounding electrodes, and ground ring conductors. Electrically interconnect lightning protection system to form the shortest distance to ground. Do not use nonconducting parts of the structure as part of the building's lightning protection system. Install the conductors exposed on the structure except where conductors are required to be in protective sleeves or in conduit. Connect the lightning protection system to all grounded metallic parts within the[ building][ structure]. Make interconnections within side-flash distances at or above the level of the grounded metal parts. The entire lightning protection system shall be electrically continuous and shall provide an equipotential bonding system. Coordinate work with structural and architectural for reinforcing irons of columns to be connected and for location of roof and drop conductors. Interconnect secondary conductors with grounded metallic parts within the building.

### 3.1.1.1 [Air Terminals][Air Termination System]

[Air terminal installation and support ][Air termination system ]shall conform to CEI 81-1. Rigidly connect[ air terminals][ copper bar mesh] to main conductors by means of clamp connectors. Locate[ air terminals][ copper bar mesh] equally and symmetrically around the perimeter of the[ building][ structure]. Final location of[ air terminals][ copper bar mesh] shall be in accordance with the applicable references. Comply with the manufacturer's instructions and recommendations.

### 3.1.1.2 Main Conductors and Bonding Conductors

Connect main conductors and bonding conductors directly to the[ building's roof, ridge roll, or parapet wall][ structure's roof] in accordance with CEI 81-1 and CEI 64-8 and the manufacturer's instructions and recommendations. Avoid sharp bends or turns in cabled conductors. Do not make turns of less than [200][\_\_\_\_\_] mm. Rigidly fasten cabled conductors every [1000][\_\_\_\_\_] mm along the roof and within 100 mm of each termination connection. Make connections electrically continuous. Install main conductors and bonding conductors along contours of the roof[, ridges, parapets] and edges. Interconnect[ all air terminals][ the air termination system] and metallic bodies[ and equipment] that are mounted on the roof.[ For specialized structures such as water tanks, antenna towers, steeples, and so forth, fulfill all instructions and recommendations of the structure's manufacturer.]

### 3.1.1.3 Down Conductors

Make down conductors electrically continuous from the air termination system and main conductors to the ring conductor and grounding electrodes. Install down conductors at outer extreme portions of the[ building][ structure] such as corners. Locate down conductors equally and symmetrically around the perimeter of the[ building][ structure]. Secure conductors to prevent physical displacement (mechanical damage) of the conductor.[ Provide a ground disconnect device for each down conductor.][ Coordinate down conductor locations with the location of air terminals.] Average distance between down conductors shall not exceed 25 meters. Coordinate with architectural work to determine the best location of down conductors. Course down conductors over outer extreme portions of the building, such as corners, with consideration given to location of ground connections and air terminals. Provide each building or structure not less than four down conductors located as widely separated as practicable, such as at diagonally opposite corners. Install additional down conductors when necessary to avoid "dead ends" or branch conductors exceeding 5 m in length, ending at air terminals.

#### 3.1.3.1 Routing of Down Conductors

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**NOTE:** Choose one of the following methods for routing the down conductors. Concealing the conductor is preferred. Choose the last paragraph only if required by the host nation's Lightning

**Protection Code. Use of reinforcing steel bars  
shall be in accordance with CEI 81-1.**

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[The vertical transition section of all down conductors shall be installed in conduit[ which shall be concealed in the exterior wall structure]. The conduit shall run continuous from the roof to the ring conductor. Roof penetrations shall be minimized and avoided if possible. Where roof penetrations cannot be avoided, then provide penetrations in accordance with the[ architectural requirements][ requirements of the structure's manufacturer]. All roof penetrations shall be approved by the Contracting Officer prior to initiating work.]

[Down conductors shall be run exposed on the exterior of the building. Run the conductor in a [20][\_\_\_\_\_] mm PVC conduit from the ground level to 3 meters above the finished grade.]

[Connect down conductors to the top and to the bottom of the reinforcing steel bars of the columns in accordance with CEI 81-1. Provide down conductors in addition to connecting to the reinforcing steel. Do not use the reinforcing steel as the down conductor even though this may be allowed by CEI 81-1.]

#### 3.1.4 Interconnection of Metallic Parts

Metallic parts shall be connected by not smaller than 35 mm<sup>2</sup> tinned copper braided, or equivalent, directly to the grounds or down conductors. Bimetallic connectors and fittings shall be used for splicing or banding dissimilar metals.

#### 3.1.5 Connection of Metallic Parts

All metallic parts located on the roof shall be bonded and connected to the lightning protection system.[ This shall include metal gutters, doors, down spouts, flues, fans, ventilators, all types of mechanical equipment, vent pipes, metallic caps on parapet walls, specialized roof structures such as mansard roofs, and so forth.] Installation shall comply with CEI 81-1. Coordinate with the actual material that is connected to the lightning protection system. Conductor material selection shall be selected as required to prevent rapid deterioration due to dissimilar metals.

#### 3.1.6 Ground Connections

CEI 81-1 and CEI 64-8. Securely connect the down conductors to the ring conductor in a manner to ensure electrical continuity between the two. Provide a ground connection for each down conductor. Connect all down conductors to the ring conductor only by bolted type connections. All connections shall be located in inspection pits for easy inspection and testing. Bond metal water pipes and other large underground metallic objects to the ring conductor. Exothermic connections may be used only in below ground locations. Provide clamp type connection or exothermic welds for continuation. Attach down conductors to ground rods by exothermic welding, brazing, or clamping. Provide clamps suitable for direct burial.

Protect ground connection from mechanical injury. Bond metal water pipes and other large underground metallic objects together with all grounding mediums. In making ground connections, take advantage of all permanently moist places where practicable, although avoid such places when area is wet with waste water that contains chemical substances, especially those corrosive to metal.

### 3.1.7 Ground Rods

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**NOTE:** Provide a ring conductor around all buildings that have a lightning protection system. Indicate lightning protection system and related equipment on drawings.

In accordance with CEI 64-8, the maximum ground resistance for any lightning protection system shall be coordinated with the protective devices installed within the Building in accordance to the CEI 64-8 Norm for the distribution system provided (TT or TN).

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Provide cone pointed ground rods driven full depth plus 150 mm, installed to provide an earth ground of the appropriate value for the particular equipment being grounded.

### [3.1.8 Grounding Plates

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**NOTE:** The use of grounding plates is discouraged in Military Handbook MIL-HDBK-1004/6, paragraph 3.3.4; however, the use of grounding plates is an acceptable alternative to ground rods in areas where excessive rock and surface ledge is encountered.

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Provide a grounding plate for down conductors. Set grounding plates not less than [600][\_\_\_\_\_] mm nor more than [3000][\_\_\_\_\_] mm from the[building][structure]. Grounding plate shall be buried as deeply as local conditions allow but without exceeding [3000][\_\_\_\_\_] mm in depth.

### ]3.2 FIELD QUALITY CONTROL

#### 3.2.1 Lightning Protection System Inspection and Test Report

CEI 81-1. Make visual inspections to verify that there are no loose connections and that conductors and system components are securely fastened. First test system for electrical continuity. Upon successful completion of these preliminary inspections and test, provide testing necessary to obtain the lightning protection system's certification from a recognized testing organization. Fulfill all inspection and testing requirements in accordance with CEI 81-1. Notify the Contracting Officer at least ten days in advance of the final test. Inspections and checks shall be provided by a qualified electrical inspection and testing company

as specified in Section 16081, "Apparatus Inspection and Testing". The inspection and testing company shall provide a Certificate of Compliance in accordance with the paragraph titled "Certificates of Compliance".

### 3.2.2 Grounding System Test

The Contracting Officer will provide additional instructions if the ground resistance exceeds [\_\_\_\_\_] ohms. Grounding system tests shall be performed in accordance with CEI 11-1, CEI 64-8, and CEI 64-12.

#### 3.2.2.1 Grounding System

##### a. Visual and mechanical inspection

1. Inspect ground system for compliance with contract plans and specifications

##### b. Electrical tests

1. Test the grounding system to ensure continuity and that resistance to ground is not in excess of [10][\_\_\_\_\_] ohms. Perform ground-impedance measurements utilizing the fall-of-potential method. On systems consisting of interconnected ground rods, perform tests after interconnections are complete. Take measurements in normally dry weather, not less than 48 hours after rainfall. Use a portable ground testing megger in accordance with manufacturer's instructions to test each ground or group of grounds. The instrument shall be equipped with a meter reading directly in ohms or fractions thereof to indicate the ground value of the ground rod or grounding systems under test.

### 3.2.3 Lightning Protection System Inspection

Make visual inspections to verify that there are no loose connections which may result in high resistance joints, and that conductors and system components are securely fastened to their mounting surfaces and are protected against accidental mechanical displacement.

-- End of Section --